AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICE CURRENT.

" *O fortunatos nimium sua si bona norint*
" *Agricolas.*" . . . . VIRG.

VOL. III. BALTIMORE, FRIDAY, SEPTEMBER 7, 1821. NUM. 24.

AGRICULTURE.

It was our intention to have given a copy of the letter which, in consequence of an inquiry made by " A Farmer, " in No. 20 of this vol., we addressed to Commodore David Porter, to ask the favour of his opinions, for publication " on the best time for felling timber with a view to its durability ;" and as it has been hitherto inadvertantly omitted, we will now give it, that our agricultural readers may remark how promptly information has been obtained for them, by simply asking for it, upon a subject deeply affecting their permanent interests as it is inseparably connected with their future operations ; and that we may accompany it with this public expression of our thanks to the Commodore for his immediate and very gratifying attention to the wishes of our correspondent : nor will we withhold the remarks which this gentleman has been been pleased to make expressive of his opinion as to the general usefulness, even of a single recommendation of the Commodore's.

The worthy author of the present enquiry, Mr. Roger Brooke, of Montgomery co. Maryland, has observed to us "that he was very much pleased by the early attention paid by our correspondent to the important " subjects of felling and preserving timber, and that " whatever he might be disposed to think of the lunar " influence on vegetation, still did these papers contain " nothing worthy of attention, but the reasons for pla- " cing the bark side of the rails upwards ; he should " himself believe that every one who has post and rail " fences to make, would profit by adopting that plan " and to an amount far beyond the cost of an entire " copy of the American Farmer."

This enquiry may indeed be a fruitful one to every farmer. We have been much pleased and edified by the remarks already made upon it by the Commodore, and we hope to learn still more from him and others, touching these interesting subjects, as they present an almost unbounded range for useful observation and agreeable research.

The inquiry made by Mr. Brooke, was undoubtedly suggested by the lamentable waste of timber made, not only in former times, and in his own county, but even at the present day, and throughout these States.

Nor does he stand alone in calling the attention of our fellow citizens to this portentous evil ; for many are they, who have forcibly deprecated its continuance, and pointed out some of the most obvious remedies ; amongst others, we well recollect the admonitions of the late President of the United States, contained in the address delivered by him to the members of the Agricultural Society of Albermarle County, Virginia, as per the 23d No. 1st vol. Am. Far.

Copy of the Editor's letter to Commodore Porter.

Office of the American Farmer,
Baltimore, 30th July, 1821.

DEAR SIR,

Under the impression that " the proper season for felling timber, with a view to its durability," has been made, within the sphere of your official duties, the subject of particular investigation, I am induced to ask the favor of you to furnish me with communications on that subject, for publication, in my Agricultural Journal.

I would excuse myself for making this application, under the recollection that you are a member of our Agricultural Society, that you have given to its proceedings the encouragement of your patronage and personal participation, and that in the management of your own farm, you have paid the closest attention to the various and interesting improvements, which are every day making in the operations, or, if I might so say, in the Arts of Husbandry. Very truly and respectfully, your obedient servant,

JNO. S. SKINNER.

TO COMMODORE DAVID PORTER,
Washington.

THE BEST TIME TO FELL TIMBER,

With some remarks on the REPORT of the BOARD OF NAVY COMMISSIONERS.

To the Editor of the American Farmer.

MERIDIAN HILL,
WASHINGTON, Aug. 10th, 1821.

SIR—"Nothing *more* true than what you once let fall," that every man, when he attempts to write on an agricultural subject, should write as though his readers were entirely ignorant of it, commencing at the beginning, and stopping at the end ; but it is *equally* true, that every one should write as though all his readers were as well acquainted with the subject as himself—and where he makes known his sentiments and opinions upon one topic, there is no good reason why he should not express them on any other that may present itself to his mind. These truths were forcibly brought home to me in perusing an article on a report of the Navy Commissioners on the subject of Ship Timber, in the Literary and Scientific Repository of last month, published in New-York, which was yesterday, for the first time, put into my hands.

The Report was made in reply to certain queries proposed by the Chairman of the Naval Committee, and one among others, was as to the best means of preserving the timber, procured for the gradual increase of the navy. The words of the query, as near as I can recollect, (not having Mr. Barbour's letter at hand) are as follow : "Which is the preferable mode of preserving the materials of wood, by covering, or by immersion."

The Commissioners of course did not feel themselves authorised to do any thing more than to recommend a system, which, in its application, could be made general. The various modes usually resorted to for preserving timber, were examined in relation to their applicability to our different naval establishments, and it was found that none would answer as a general system, but the one recommended ; to wit, *putting up the frames of our ships, and placing them under cover.*

The writer, however, of the article in question is not satisfied with this—he thinks the commissioners ought to have gone further, and he has himself supplied the deficiency in their report, by showing, in a very interesting manner, the time and necessary preparation for felling of trees, with views to their durability ; and recommends salting as the best means of preserving our ships. Answers to neither of these subjects are called for by the committee ; but, for his satisfaction, I beg leave to state, that neither are neglected by the Board. As to the first, the preparation recommended by him, it admits of many doubts : the second, the salting, has been practised from the commencement of our navy, to the present day, where ships have not been built by contract, and the sound condition of our oldest ships, is proof of its efficacy. It is an operation that cannot be performed, until the ship is planked inside and out, and caulked ; the spaces between the timbers are then filled with salt, which is absorbed by the wood, and completely destroys the acid of the sap, a chief cause of early decay. The query calls for information as to the best means of preserving *timber, not ships* ; and although salting a ship on the stocks, would no doubt be highly beneficial, yet no one for an instant can think the practice so necessary, when a free ventilation can be had, as it would be in counteracting the effect of the heated atmosphere in the holds of floating ships, in which many instances have occurred of the total destruction of its vitality.

I beg leave to offer a few remarks as to the preparation recommended by the author of the article, which is " to strip the trees of their bark before felling " This he recommends on the authority of Dr. Plott, who wrote in the year 1691, and whose opinions are confirmed by Buffon in the year 1738.

The tree should be stripped, he says, in the spring of the year, and permitted to remain standing two or three years before it is felled, to give it time to season. In justification of this hypothesis of Dr. Plott, the " Royal Sovereign," (sometimes called the Sovereign of the Seas) a ship built in 1637, whose timbers forty-seven years after she was finished, were found perfectly sound, is mentioned ; " so sound," says the historian, "that it was no easy matter to drive a nail in them"—he, the author of the article, then goes on to state, that in order to test the mode he recommends, the Navy Board of England, caused the Hawke Sloop of War to be built in 1793, one half of stripped timber, the other half of timber obtained in the usual way ; and that in ten years afterwards she was broken up, when no visible difference could be observed in the timber, all of which, it is stated, was found equally decayed. Still, however, for the want of details, the author adheres to his opinions ; and, notwithstanding the failure of an experiment made expressly for the purpose of trying this principle, places firm reliance on the suggestions of Dr. Plott, who wrote a century before—and this reliance on the opinions of the Doctor, seems more extraordinary, as one of the charges made by him against the Board, is their having recommended a practice founded on the best experience since the days of " Vetruvius," a celebrated Assyrian naval architect, who wrote on the subject.

The opinions of our ancestors are certainly worthy of being attended to, and practices coming down to us through many ages of experience, are entitled to our respect—they must carry with them intrinsic merit to secure their continuation. The practice of "Vetruvius" still continues ; the hypothesis of Dr. Plott failed on the first experiment : but to come nearer to our own day, the Achilles was built in 1757, and the Montague in 1779, both of *winter felled* timber—the one opened in 1784, was found perfectly sound—the other is now in service. " The superiority of winter felled timber," says the historian, " was in them *very evident, and fully acknowledged*"—many, very many other instances could be cited from history, but our own experience for twenty years and upwards, is sufficient to justify the practice ; for ships built of timber, cut during the summer, have invariably decayed rapidly, as is the case with the Java, Guerrier, Erie, Ontario, Peacock, Chippeway, Boxer, Saranac, &c. &c ; while those built in time of peace, and chosen season, are now sound, and likely to be so for half a century more ; such as the Constitution, United States, Constellation, Congress, &c. &c. The Board of Navy Commissioners, at the time of making the report, had been but five years in existence—it therefore ought not to be expected that a system for preserving timber could be formed on their own experience. The age of man is insufficient for this purpose ; and that mode which, of all others, has

been longest in use, it was their duty to adopt—if, after a strict examination, they approved of it. Thus "Vetruvius'" method of felling timber in the "winter season" is practised, and his recommendation to cut it "on the decrease of the moon," is also worthy of attention. It is hard, however, to persuade mankind that light, which cannot enter an opaque substance, can have an influence on trees: We should not, however, forget the innumerable experiments which have been made to prove, that it is to light they owe their verdure, and whatever may be the *modus operandi*, we cannot doubt, from daily experience, that light is as important as heat to the perfection of the vegetable world--Whether the presence or the absence of the moon is most beneficial is not the question; but only, what period of the moon is most proper for cutting timber.

The experience of the French, and the acknowledgments of the English, both founded on the method of "Vetruvius," are confirmatory of its correctness. Mr. Williams, in his elaborate Treatise on Dry Rot, says, "Most of the ancients, and some of the moderns, contend not only for the propriety of felling timber in the winter months—but they likewise maintain that the wane of the moon is most proper for this purpose." Hesiod, for example, informs us, that it was deemed improper to fell any timber for the purpose of ship-building, except on the 17th day of the moon's age, because, it being then in the wane, the sap or internal moisture, which is the grand cause of early decay, would be sunk, or, at least, considerably lessened. Vegetius extends the time, and allows, that if trees are cut down from the 15th to the 23d day of the moon, they will endure for a long time without perishing; but adds, if that limitation is transgressed, the daily practice and experience of all artizans may convince the world, it would become worm-eaten, or rotten, in so short a space of time, as to be almost incredible. And the order of the Emperor Napoleon, addressed to "*M. M. les conservatures*, v. 18. Thermidor an 11*, adverted to in my former letter, is evidence of the importance which he attached to it.

I beg leave to offer a few words on the subject of the Royal Sovereign, which the author of the article says, on the authority of Dr. Plott, was built of barked timber. Dr Plott wrote in 1691, fifty years after the ship was built—Evelyn wrote in 1662, twenty-five years after she was built; and, as extraordinary pains were taken in the building of that vessel, there is no doubt that he (Evelyn) profitted by the method then pursued—he recommends "laying up the timber very dry in an airy place, yet out of the wind or sun, and not standing up-right, but laying along one piece upon another, interposing some short blocks between them." But although it is asserted by Dr. Plott, that the timber was barked only, yet from various circumstances there is reason for believing that it was also notched around the body near the root—a process which, in its effect, would be very similar to felling the tree: be this however as it may—other causes for the durability of the timber, of which she was composed, existed. In the first place, she was built entirely of British oak—the durability of which is accounted for in the Report of our Navy Commissioners; in the second place, she was built of the *choicest* of British oak. Mr. Thomas Haywood, who viewed this ship frequently when building, says of her, "to the glory of our English nation, and not to be paralleled in the whole christian world—one thing (her timber,) is particularly worthy of remark at least if not admiration, for one oak tree made four of the principal beams of this great ship, which was forty-four feet, of strong and serviceable timber, in length, three feet diameter at the top, and ten feet diameter at the stubble or bottom end."

The subject of ship-timber, about that period, was better attended to, than at any other—it was in 1677 when Haywood wrote—Evelyn wrote in 1662—the French government passed their famous ordinance in 1669—in 1684 Dr. Plott wrote, and, at this day, all are quoted as good authority.

* 6th August, 1803.

The practice recommended by the Board, as to the preservation of Timber, is an improvement on the mode of Evelyn, and is in conformity with the manner of collecting the timberof the Royal Sovereign, "*a choosing of the best quality*:" it is, in fact, *their* experience, founded on practice, since the days of "Vetruvius."

The barking of the trees, however, was not a consequence to the determination of building the Royal Sovereign. Tanners bark was much in demand at that period—whole forests were destroyed to procure it, and the necessity for using the trees which were left standing, first suggested, in all probability, the idea of building her.

The 2d of James, chap. 22, is an act respecting bark, as it relates to tanners, curriers, shoemakers and others concerned in leather in which for the better preservation of timber, the falling of trees for barking alone, is prohibited under severe penalties.

This act, it would seem, was evaded by barking the trees *standing*; and in Charles' reign other acts were passed to preserve the forests, one of which declares that "the destruction of wood tends to destroy the Commonwealth." It is a remarkable historical fact, that the charter of British liberties was obtained in consequence of a desire on the part of one Sovereign to destroy the forests or parks of England;* and that the Navy of England should have owed its rise to a desire on the part of another to protect the forests against the depredations of his subjects.

The destruction of parks, and consequent destruction of game, by King John, caused the hostile array of the Barons of Running-mead; the barking of the trees by the subjects, for the purpose of tanning, caused those acts which were intended for the preservation of the game: both were for the gratification of a king—one to indulge his resentments against the supposed friends of the king of Scotland, who had married the daughter of the Earl of Bullen, without his consent, the other to indulge a passion for hunting.

"By the 43d of Elizabeth, chap. 7th, it is enacted that if any idle person cut or spoil any wood or underwood, poles or trees standing, and be convicted by the oath of one or more witnesses, if they cannot pay the satisfaction required, they shall be whipped. Receivers of wood so cut, knowing it to be so, to incur the same punishment."

"The 2d of James I. chap. 22, is an act respecting bark, and lays heavy penalties on all who fall trees for barking, out of the barking season The 15th of Charles 2d, chap. 2d. is an act to render the 43d of Elizabeth more effective."

I mention this merely to shew that the author was in error if he believed that the barking of the trees was an arrangement preparatory to the building of the "Royal Sovereign." It arose from the desire inheritent in man to evade all oppression—a circumstance then purely accidental, and of doubtful utility, should not be taken as our guide in preference to long tried experience.

My object thus far has been, as briefly as possible, to justify the course taken by the Navy Commissioners. I beg leave now to dwell a little on the importance of preserving our forests In my other letters I have touched on the mode pursued in France—in the present instance, I have shown in a slight degree, the importance which England has attached to her forests; but although your enquiry limited me to a particular point, as much as the Navy Commissioners have been limited by the enquiry of the Chairman of the Naval Committee, still I fear, like them, it will be expected of me that I should say *all* that can be said about timber, under *all* circumstances—this, however, would be too much to expect of you, if not of me; your paper belongs to Agriculture in general, and not to any particular branch of it. Besides, doubting my ability also to do the subject justice, I should fear tiring you and your readers. The subject is inexhaustible, and it is only in my power to skim the surface—the facts I give are from the authority of others, and I can claim no other honor than that of treating the matter fairly. I disclaim all pretensions to science—I deal only in common sense; let then, *the more highly gifted* deck their brows with laurel. I shall feel satisfied in removing prejudice by the establishment of truth.

On these principles, and on these only, I claim the indulgence of my readers, and shall endeavour, if my official duties will allow me, to go more fully into the enquiry respecting the importance of timber, and the best means of preserving it. If I quote authority, it shall not be of a doubtful nature; if I go back to antiquity, it shall be for historical facts only, and not for minute details of experiments made. For example, I do not doubt the fact, that the fleet commanded by Dulluis, in the first Punic war, was at sea in sixty days after the timber was cut down, or that the Armado of 220 ships sent against King Hiero, was built and afloat in forty-five days after the timber ceased to grow; or that the fleet employed by Scipio, in the second Punic war, was at sea forty days after the fall of the timber, no more than I doubt that Philotas constructed Galleys 600 feet long, and 85 feet wide, on board of which were superb palaces; that those of Hiero were still larger—that Dennys of Syracuse built one carrying six thousand men, or that that of Caligula was of cedar with a poop of ivory enriched with precious stones. All these things are historical facts, and are no doubt, entitled to credit—but they are of no more use in the present investigation, than to know that Hannibal dissolved the Alps with vinegar. We have no more details of the practice of preparing the timber and its durability in the one case than we have of the process of dissolving stone in the other.

If we search history in vain to learn what is meant by two, three and four banks of Oars, how vain is it to look for that minutiæ of detail, which will enable us to comprehend the arrangement and structure of those extraordinary vessels, of which at this day with all our nautical experience, we cannot form an idea

There can be no doubt that the ships built in the earlier periods of the British Navy, were more durable than those of the present day; but does it follow from this fact, that as we ascend in the scale of antiquity, they were still more durable? We certainly should not expect it in ships sent to sea in forty or forty-five days after the cutting of the timber—the durability of the British ships, may on well attested facts, be easily accounted for; that of the Roman Galleys cannot be credited. It is said that the timbers of one have lately been discovered in perfect preservation. It exceeds my belief.

A reference to the report of the Board of Navy Commissioners, will shew that the cause of the superior durability of the British ships, was the selecting of the best British Oak, cut at a proper season, and transported from the forest to the yard without suffering it to be immersed in water—holding it as they do, as an established truth, that dryness is favorable, and moisture unfavorable to the durability of timber—Whether this practice arose from accident or design, it matters not; such, however, is the fact, of which the most undoubted proof may be had.

This letter, sir, looks more like a defence of the opinions of the Board of Navy Commissioners, than an Agricultural Essay. I must beg you to pardon the digres-

* *Extracts translated from Magna Charta of John.*

"Chap 44. Men who live out of the Forests, shall not be brought for any cause, before any Justices of the Forests, by common summonses, unless they are concerned in the cause, or are bail of those who are attached to the forest."

"Chap 47. All forests which have been afforested in our time, shall be immediately disafforested."

"Chap. 48. All the bad customs relating to forests and warrens, and foresters and warrenders, and sheriffs and their officers, and wears and their keepers, shall be immediately enquired into, in every county, by twelve sworn knights of the same county; and within forty days after this inquisition being made, they shall be abolished, so that they shall never be revived, provided that they are first informed of it by our justiciary, if we shall not be in England."

"Chap. 53 But we will have the same respect and the same manner of exhibiting justice, of disforesting forests, and of continuing forests, which Henry our father, and Richard our brother, afforested."

sion—it has been called for, more by the erroneous impression which existed as to what they *ought* to have done, than from any thing they had neglected. Whatever relates to the preservation of wood, is an answer to your enquiry, whether it be for farming purposes or for the purposes of ship building.

Very respectfully your obedient servant,

D. PORTER.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES BY MACHINERY—GREAT IMPORTANCE OF THE HOME TRADE, &c.

MR. SKINNER:

I begin to read your paper with indifference, for I begin to say to myself *cui bono?*—As I cannot sell what I make.

It appears to me that our statesmen do not sufficiently consider the change that has taken place within the last forty years as well in the other three quarters of the globe as in America. In the United States, we have encreased from two millions of people, to ten millions—before the revolution, we had connexion only with Great Britain, and now with all the world.

The encrease of commerce, and of communication, by printing, informs all nations, of the articles, producing the greatest profit, and also instructs them in the best mode of rearing them. Thus we find, a most rapid augmentation of gainful articles, and a fall of prices, in consequence of abundance, is annually announced in newspapers. Formerly, commerce was confined to a few towns, and to few merchants; consequently their profits were enormous. In modern times, foreign trade has become a very hazardous lottery kind of speculation, wherein very few draw prizes. The tobacco merchants have suffered so much lately, that our planters find themselves necessitated to ship their tobacco; thus, they must incur the expense of freight, of insurance, and the risque of foreign agency: and should ill success attend some of them, these must sell their slaves and property, and retire into the interior, far from a market, whence grain will scarcely defray the expense of transportation, and where the comforts of society, and the means of education are wanting.

If we examine the rises and falls of modern nations, we shall find that they depend upon the increase or diminution of internal manufacturing industry. If machinery can give to a nation equal to the productive labour of a hundred million of hands, think how handicraft business must be undersold, and how the nation that employs machinery can obtain the raw produce, and the specie and the stocks of another nation which does not use machinery: statesmen and financiers ought particularly to consider how machinery can be introduced and augmented in their own country.

Agricultural societies, are very beneficial when a middle class exists to convert the produce of the earth into useful articles, but unless the owners of the land find a market for every thing, an increase of their productions, reduces their profits.

It would require several pages to contain an enumeration of the consumable things produced by ingenuity and industry—let any one take a list of what is in his house, and he will be surprised at the variety: he cannot be clothed, or comb his hair, or shave, or look about his room, without, finding what leather for shoes, what cotton, wool, &c. for stockings, pantaloons, &c. what skins for hats, and what dyes are required: let him look at his sideboard, and view the glass, the pottery, &c. &c: let the agriculturists then consider, that if the makers of these did no exist, what would their farms be worth, and that the nearer the makers of these things reside, the less distance they have to send their produce, and the quicker their returns.

Visit a merely agricultural country, and you will find only a few towns, if they can be so called, at cross roads, composed of a tavern, a blacksmith's shop, and store, and perhaps a church, a lawyer's and a Doctor's house. Landholders possessing extensive tracts live scattered at a distance from each other, and have very little society.

Visit a manufacturing country, and all the comforts of life are in abundance, population is condensed, and social intercourse refined. The Historian, the Poet, the Novelist, the Mathematician, the Chemist, the Botanist, the Mechanician, the Painter, the Engraver, the Musician, in short, all who advance intelligence and afford delight are there collected.

We want the Middle Class very much in the U. States, and never shall acquire it by the present system. That we have been going rapidly retrograde for the last six years is, I believe, universally acknowledged, although we have encreased in population.

You, sir have proved yourself a most zealous, assiduous and intelligent promoter of agriculture, and I wish you could induce each of our societies severally to appoint a committee to give reports on political economy; for I fear that we are too attentive to the one, and too negligent of the other. These committees would teach the agriculturists to consider, that they must no longer rely exclusively on exports, and imports, and that commerce is a trifling precarious resource, compared with a home market. In Mr. Sullivan's address to the Massachusetts society published in your 8th number, it is stated, that one man can produce on 10 acres, potatoes enough to feed one hundred.—Thus ten thousand men and one hundred thousand acres, could feed a million of persons—there must however be ground to feed cattle sheep, and horses, and if we had a middle class, in sufficient numbers a great quantity of meadow land would be required, and the manure of these animals would enrich the uplands and encrease our crops. The farmers would thus become rich and obtain resources to irrigate, and to make all kinds of improvements.

Were we all agriculturists how wretched we should be by excess of food, and the want of every thing else. It may be said that man would naturally turn to other employments. So I admit he would, and thus barter would be introduced. It may be also urged that exports would take place; but that I deny, if other nations prohibited the admission of our products. But to this it may be replied, we may buy and sell amongst ourselves; this also I deny, unless we make our own circulating medium. for a nation without mines, cannot have specie, but by the balance of trade.

If our societies had committees, as I propose, to make reports on political economy, our farmers from the interior when members of Congress, would know their own true interest, and be no longer deluded by the exploded doctrines of the French economists which, for a long time prevailed, producing much mischief. If Great Britain had only farmers, or had depended upon a specie currency, she would now have exhibited a mournful spectacle of fallen greatness, far inferior to our own; for her climate cannot produce corn, tobacco, cotton, and rice. I hope my brother farmers will be roused by distress to consider their true interests, by ascertaining how consumers may be increased.

Should you deem this letter worthy of insertion in your valuable publication, I will in another letter demonstrate how this country may surpass all others, having their present Governments.

A FARMER OF THE MIDDLE STATES.

ON THE HESSIAN FLY.

BY JAMES WORTH.

Read before the Agricultural Society of Bucks' County, February 12, 1821.

Ordered to be published in the National Recorder.

SHARON, 1st February, 1821.

Sir—Having intimated to the society, my intention of furnishing a treatise on the Hessian fly, and in order to perform some service as a member of the committee, I will now exhibit such information as I am possessed of, touching that subject.

The Hessian fly, or (as classed by our distinguished countryman, Thomas Say,) Cecidomia destructor, I understand first made its appearance on Long Island, in the state of New-York, in the year 1776, and soon after the Hessians had been there; it was therefore supposed to have been introduced by them, among some straw, which it was said they brought from their country; hence the origin of the name "Hessian fly," or as that great and long-tried friend of agriculture, the honorable Richard Peters, observes, in his Notices for a Young Farmer, p. 29, the "appellation was bestowed during our revolutionary excitements; when every thing we disliked we termed Hessian" But it has since been ascertained, that no such insect has ever been known, in the country where those Hessians came from, and it is now generally believed to be a native of America. It appears by a paper signed James Vaux and John Jacobs, as published in the Columbian Magazine, vol. ii. p. 459, that in August, 1788, they went to Long Island, for the purpose of inquiring into the destructive effects of the fly, and they found that it had done such injury to the wheat crop in that quarter, as to induce a change of kind, so early as the year 1780 or 1781. The appearance of the insect into this county, and its progress for some years afterwards, is stated in a communication from Dr. Isaac Chapman, which was read before the society, at a stated meeting in August last, and under date the 28th November, he has favoured us with a copy of that interesting document, accompanied by some remarks on the proper time of sowing wheat, to which I beg the com-

mittee's reference, and also to a communication that I made to the Philadelphia Society for promoting Agriculture, dated 1st February last.* The latter was written without my having any knowledge of the doctor's observations, and contains some particulars respecting the insect, as occurred in the fall of 1819.—I will further call the attention of the committee, to a more scientific description of it, and a parasitic insect, the Ceraphron, that feeds on it, as written by Mr. Say, and published in the Journal of the Academy of Natural Sciences of Philadelphia, vol. 1, pages 45 and 63, accompanied with a plate by Mr. C. A. Le Suer. It seems, however, that Mr. Say had not an opportunity of examining it in the egg state, and consequently has been mistaken in his conjecture respecting the manner and place of deposit.

I will now proceed with my history during the past year 1820. The fly evolved from its pupa or chrysalis about the 19th April, and deposited its eggs about the 24th; the deposit was made similar to that of last fall, except in some instances farther from the stalk. The insect generally chooses the weakest plants, avoiding those which are forward or well grown. This is accounted for, as it seems necessary to clasp the leaf, by placing some of its claws on the opposite side, in order to press the eggs into the gutter; hence there is a difficulty in managing a broad leaf; and in the few instances where I found it effected, the eggs were lain near the side or point, of course were more exposed to danger; and besides, the young caterpillar probably would not so easily make its way down the stem of a vigorous plant. It appeared to me, that many of the eggs of this brood were devoured by other insects, and that those which escaped, were hatched in the course of two or three days. The pupa state commenced about the fifteenth of May. It again entered the imago or fly state early in June, and generally deposited its progeny from the eighth to the tenth of that month; but I saw it on the twelfth, in all its stages, to wit, the ovum, larva, pupa, and imago—that is, the egg, caterpillar, chrysalis, and fly. The eggs were lain on the upper leaves of the weakest or stunted wheat, and in some instances on the under as well as the upper side, and the larva became lodged about the two upper joints, but most about the upper: this second brood is very numerous, and there being proportionably only a few plants that the fly seems to like, I have counted two hundred and eight eggs on a single leaf, and the caterpillars were in such quantities around the stalk, as to burst their covering, and thus become exposed to the depredation of other insects: they were generally smaller than those of the other broods, and many of the uppermost perished for want of food, the sap of the plant being taken up by those below; immense numbers, probably nine-tenths of the whole, were in some way destroyed—the busy ant appeared to be doing its part, but I may have mistaken the ceraphron of Mr. Say for it, (as I had not seen his description) or both may have been engaged in the work of destruction. I am satisfied that some insect had deposited on the larva or pupa, as I found many in the latter state completely eaten up, and the case perforated by the parasite, and through the aperture I presume it evolved in its perfect state. In harvesting, some of the stalks on which the pupa rest are left standing; others, and the greater part are cut off—some of those thus cut off are so short as to be left strewed about the field, whilst the longer ones are bound up in the sheaves and carried to the stack yard or barn, and it is probably owing to the various situations in which the pupa is thrown, that the succeeding brood becomes so irregular, the deposit of which commenced about the 15th of August, but more abundantly made about the 26th, and continued on, in a less degree, till October, when those most early entered the fly state; and thus their ravages were carried on as long as the season would permit. I saw a few in the fields on the 25th of November; and in the house, as late as the 15th of December. It may then be said, that during the past year, there have been three complete broods, and partially a fourth.

I will ask the attention of the committee particularly to the June brood, as it has heretofore been altogether neglected, and is that which must especially be looked at, if ever we shall conquer this inveterate enemy. The idea of the insect having been introduced into this country among straw, has been treated as ridiculous, because the pupa was found too near the root to be dislodged in harvesting; but the brood under consideration is lodged near the top of the straw, and I have already stated, that a great proportion of it is actually cut off, and although the most of that which is gathered up is without doubt destroyed in the process of threshing the grain, yet some does escape, as proven by an examination in my barn yard, on the 20th of December last, where straw had just been thrown from the threshing floor. I there found some of the pupa in a state of complete preservation; and it might be carried to any distance, and when it is not exposed to a proper degree of heat, may be preserved a long time. I have now some in my possession which were gathered before harvest, and are evidently in a live state. I do not mean by this, to contest its American origin; that question seems to be settled, inasmuch as it is not known any where else.

In tracing the insect through the last year, I have found it a much more formidable foe than I had before imagined, and I have been mistaken in some of my former impressions—as in my communication to the Philadelphia Society for promoting Agriculture, I recommended early sowing. My opinion was predicated on the idea that the broods were deposited at regular periods, and completed in a very short time. As soon, therefore, as I supposed the August deposit to have been finished, which I concluded was about the twenty-sixth, I had a small lot prepared and sowed on the thirtieth, calculating that there would not be another deposit before October, and that I could guard against it by pasturing. In this I have been entirely mistaken; for the fly commenced its operations on the wheat soon after the young plants appeared, and was continually followed by others, as long as the weather permitted; so that there is but little prospect of a crop. The wheat now growing in this neighbourhood has been sown at several different times, and, except the very late, has a good deal of the larvæ of the fly lodged among it; and I fear that, should the spring prove unfavourable, much damage will be sustained: nevertheless, we shall have an opportunity of gaining some information as to the best time of sowing. The wheat that takes the earliest growth in the spring, will unquestionably fare the best, and hence the advantage of manuring and selecting the earliest kinds; and thus it is that rye succeeds. But we must not suppose that we can thereby entirely overcome the fly; for we should ever bear in mind, that it only *prefers* the weakest plants and a particular kind, and in case of necessity, will most assuredly attack the strongest and *any* kind, and probably even a different plant. Depend upon it, it will never starve while it can get any thing to eat. When I hear a person say that he has not suffered by the fly, I take it for granted that he has manured well, or that he has a neighbour that the insect likes better. How was it when the yellow-bearded wheat was introduced on Long Island, and afterwards into this county? It answered a good purpose to those who first procured it, but in the same degree it injured them that continued the old kind; and so I presume it will be with the Lalor wheat now trying in Virginia and other places: indeed I think it probable, that any new kind, of early spring growth, may serve a temporary purpose to him who first cultivates it, but it is, I fear, only a decent way of injuring a neighbour; nor do I find that any general advantage attends the not sowing next to a stubble field, for the wheat *nearest* thereto will be the most injured, whether it is alongsike or a mile off; but something will depend on the direction that the fly may be driven by winds, or obstructed by other circumstances: and with respect to pasturing, I will relate a case stated to me by my friend Anthony Taylor. Some years ago, on the twenty-third of April, he turned his sheep on a lot of wheat, and kept them there until scarcely a vestige of the plants was to be seen. It was supposed by his neighbours that his crop was entirely destroyed; nevertheless it soon recovered, grew in the most even and beautiful manner, and yielded upwards of thirty-five bushels per acre. The inference I draw from this experiment is, that it was most fortunately timed, and the wheat was so completely cut off by the sheep, that the fly had no place left to deposit on, and that the eggs of that brood were all lain before the plants had thrown up new shoots, so that the fly was compelled to pass into the adjacent fields; and his neighbours suffered by his good fortune; or it may have been that the caterpillars had not passed from the leaf, and were actually devoured by the sheep, and an abundant crop of wheat was the consequence: but in the former case it may well be questioned, whether the practice would promote the general good, and a further doubt

* See National Recorder, vol. iv. p. 65.

might arise, when we consider that there is such a wonderful disposition in some insects to secure the continuance of their species, that their sexual intercourse does not take place until a provision is made for their offspring, and therefore will sometimes remain in the fly state much longer than at others. Now in the spring, the Hessian fly appears to live only a few days; as the plants upon which it deposits being then in a state of rapid growth, there is no time to be lost; but if we were all to pasture our wheat, its existence would brobably be prolonged until the plants became suited to its purpose; and by sowing it later in the season, an injury rather than a good would result, unless the pasturing was done immediately on the appearance of the spring deposit. I would then suggest the expedient of feeding the insect in the least expensive manner, that is, to procure an early kind of wheat, and sow it for the crop; then sow on the same ground about a bushel (perhaps half that quantity might do) to the acre of the common or late kind, for the fly. I have no doubt but it would select its favourite sort, and the only loss would be the wheat sown. It is asserted that sowing radish among turnip seed will preserve the latter from the ravages of a fly to which it is subject. I have not had an opportunity of testing its truth, but think it probable; and if such is the fact, it must be simply owing to a preference which the fly has for radishes, and there must be enough sown to supply food until the turnips shall have formed the rough leaf. It is truly astonishing what nice distinction some insects make in the choice of their food, and how difficult it is to force them from their favourite; and yet, when compelled to change, they are equally voracious in devouring the new plant, and in some instances afterwards prefer it. It will be perceived, that by sowing two kinds of wheat, over the whole field, and the fly preferring one, the destroying it would only thin the plants without injuring the crop; whereas sowing an equal quantity of one kind, would not answer the same purpose. But this expedient will be attended with difficulties; for it must be evident, that by sowing the two species together, a mixture of kind would take place, which would prevent our deriving any advantage from their separate qualities; consequently it would become necessary, continually to obtain seed from other places, or sow some of each sort on separate lots for that special purpose.

A difference however prevails as to the manner in which the mischief is produced, that is, whether it is done by pressure upon the stem, or by the caterpillar feeding on the juices of the plant; the former appears to be the prevailing opinion, and it is supported by many persons of the most respectable character; and if that point can be established, perhaps a kind of wheat may be found, that will resist such pressure; but it appears to me, that the indentation of the stem, is occasioned by the extraction of the sap, and in no other way can I account for the rapid decline of a young healthy plant; its growth is almost immediately stopped, and in a few days a change of colour takes place. I have never discovered such effects to be produced on any plant, by mere pressure on one side; indeed in this case I doubt there being much pressure upon the stem, as the covering would, I think, be first loosened; having therefore no confidence in the doctrine of pressure, as here applied, I must leave to its advocates, the discovery of a remedy, and I wish them all possible success.

When the wheat fields make a good appearance, we are unmindful of the fly: and yet I believe, that every crop is more or less injured, and that even in a favourable season, the produce is, on an average, lessened one-fourth in quantity, and sometimes more than one-half. Shall we then submit to a devastation of such immense magnitude? Shall man, to whom was given "dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth," be robbed of his very bread, by so mean an insect? And besides, the brood which seems to be the very one that we ought to attack, is mostly destroyed for us, leaving only about one-tenth part for us to overcome. Nothing short of destroying or crippling the insect ought to satisfy us; but owing to our practice of finishing the course of grain crops with wheat, and sowing grass seeds among it, our purpose cannot be effected; and the wheat continuing to shoot up among the grass, for one, and sometimes two years after, offers food and safety to the fly. I will then propose to change the course of cropping; that is, commence with wheat, and immediately after harvest, burn the stubble and plough the ground, so as to prevent the insect from maturing; or perhaps a better plan would be, to plough the stubble, which would destroy the pupa by covering it in the soil, and would cause such a quantity of plants to spring up, as would be sufficient to receive the next deposit of such as might escape from the covering or come from other places; and by again ploughing, the larvæ would mostly perish. And we must also use every precaution respecting the straw that is hauled out of the field. I would prefer putting it in a close barn, and covering it with hay, or something that would prevent the fly from evolving; but if it must be stacked, pay great attention to the plants, which may spring up from the scattering grains, nor must we forget rye and barley.

The reason why the early sown wheat does not succeed better, may in some measure be owing to its partial observance, and the fly being so much more numerous than the plants, such a quantity is lodged on each, as destroys the very roots; but a vast number of the larvæ perish for want of food, and the more so if early sowing was entirely omitted, confining the fly to the stubble fields; for I have uniformly found, that the eggs are distributed, according to the quantity of plants that are in a suitable state. Now if we were all to sow early, I believe that such would be the small number allotted to each plant, that the roots would resist the attack; but as this is a matter which cannot, or rather will not be attended to by all, and as it would unquestionably have a tendency to nourish and increase the insect, it will most likely be safest to adopt the general practice of our neighbourhood, in sowing the last of September, or first week in October; but on no account defer it later, for it is certainly of consequence, that the plants should be well rooted before winter sets in, and it has been remarked, that the latest sowing sometimes suffers the most, no doubt owing to its backward state in the spring, and I believe there is some advantage in having the grain well covered at the time of sowing, and this may be the reason why some choose to plough their seed in.* Next to the wheat crop I would recommend corn as the better to clean the ground, and then end with oats and grass; or if the present course should be preferred, omit sowing grass seeds among the wheat, and after harvest, burn or plough in the stubble as afore-mentioned, and prepare the ground particularly for a grass crop. I really see no other way of getting rid of this enemy, and I have thought much on the subject. If a better plan can be devised, I most heartily invite it, and I call upon every member of the committee, and upon every member of the society, to make the attempt. I by no means consider the case as fully developed; but I am persuaded, that if all who are interested, will attend to it properly, an ample remedy can be found; for although man is doomed to "eat bread in the sweat of his face," yet I firmly believe, that in every instance where he faithfully exercises the high powers with which he is endowed, he will be enabled to accomplish his utmost wishes. It is surely high time that something decisive should be done in the case now before us, and can there be a more favourable time than the present, when there are numerous socities formed in different parts of the conntry, all having the same objects in view, and by uniting in the same plan, could carry it into general operation, and thereby insure success? Now I want our society to take the lead in this very important work, not only as it regards the insect immediately under consideration, but all others which may be found so ruinous to the agricultural interests.

I will mention the locust (Dicada septemdecim) as likely at some future period to destroy all our forest and fruit trees. The year before their last visit, I planted an apple orchard, which was so injured by them, that the trees generally became sickly, and I believe I should have lost the most of them, if I had not lopped off the wounded parts, and in some instances I found it necessary to take the whole head off. And when I reflect on the serious damage which has frequently been sustained by the ravages of several species of insects, I am led to believe, that under certain circumstances, our crops may be entirely cut off by them, and if not timely attended to, we may experience

* I have observed that plants having no depth of root were destroyed, whilst those having their roots sufficiently covered resisted the attack, and I presume the difference to be owing to the situation in which the grain is placed, because *there* is the dividing point betwixt the radical and plume, and, therefore, where the grain is well covered, the base of the stem will be below the surface of the ground, and the embryo bud which is prepared to throw up a new stock, being there formed, is protected by the soil: whereas the buds that are formed at the surface, are destroyed by the fly, and consequently the whole plant must perish.

the most dreadful of all scourges, a famine in our land. The insect tribe, though mean, is perhaps the most mischievous of all the animal creation, and when we consider its prolific nature, how careful ought we to be, to protect that link, which seems intended to keep it within its proper bounds; I allude to birds: I have already recommended them to the notice of the society, and I earnestly beg, that they may not be any longer neglected. Even toads and snakes are calculated to serve the purposes of man: and I must also recommend the more frequent use of that valuable implement of husbandry, the roller, not only for the better culture of our crops, but as destructive to insects. The late Mr. Bernard M'Mahon, speaking of the turnip crop, says, "the all important point is, that the rolling of the ground is experimentally found to be the most effectual method hitherto discovered for the preservation of the rising crop, from the destructive depredations of the fly. The turnip fly is always found most numerous on rough-worked ground, as there, they can retreat and take shelter under the clods and lumps of earth, from such changes of the weather as are disagreeable to them, or from the attacks of small birds and other animals."

Perhaps I have already been too prolix, and may have wandered far in the maze of conjecture; but on a subject of so great moment, I was desirous of throwing out every idea that I possessed, however strange some of them might appear, and as the inferences which I have drawn, are grounded on the premises laid down, every person can judge of their propriety, and none will be deceived by my errors. I submit my views to the examination of the committee, and rest, respectfully,

Your obedient servant,

JAMES WORTH.

FOR THE AMERICAN FARMER.

Annapolis, Aug. 13, 1821.

As vegetable oils are becoming a subject of inquiry in the United States, through the medium of your valuable press; I send you below the best account which has yet been published on the Sun-flower Seed Oil. It is a summary of an essay published in the transactions of the American Philosophical Society, by Dr. J. Morgan.

Yours,

JAMES BOYLE.

SUN-FLOWER SEED OIL.

The grinding of the Sun-flower Seeds, and expressing of oil from the same, is a manufacture, which, as far as can be yet learned, was first begun among the Moravian brethren at Bethlehem, and reflects honour upon them, whilst it affords the public a new substance very beneficial in a variety of purposes, but more especially as it may serve for a sallad oil, and for other uses of diet and medicine, in the place of olive oil.

From experiments already made at Bethlehem, it appears that a bushel of the Sun-flower Seed will yield, on expression, near a gallon of mild oil. The gentleman, who is appointed by the community there to superintend their mills, designs as we are informed, to pursue a further course of experiments on this subject, the result of which, we hope, will be communicated to this society.

Our correspondent at Lancaster informs the society, that some persons in the neighborhood of that place, have also expressed a quantity of oil from the Seeds of the Sun-flower.

His account is as follows:

The person, who has raised the greatest quantity of the Sun-flowers with us, informs me, that one hundred plants, set about three feet distance from each other, in the same manner as Indian corn is commonly planted, will produce one bushel of seed, without any other trouble than that of putting the seed into the ground; from which he thinks one gallon of oil may be made. I observed the land, on which he planted the Sun-flowers, to be of the middling sort, and that he took no pains to hill them, or even to loosen the ground about them, which, from my own observation on some planted in a neighbours garden, I take to be of considerable use.

As the Sun-flower is a plant of great increase, and requires much nourishment; hilling does not seem so good a method as that of setting the seed or plant in a hole, and when the plant is about a yard high, to throw in the mould round the stalk, so that the surface of the ground may be even about it. By an estimate made it appears, that one acre of land will yield to the planter between forty and fifty bushels of seed, which will produce as many gallons of oil. The process for making or extracting the oil is the same as that of making linseed oil, which I make no doubt the society is acquainted with, and therefore shall not trouble you with it.

The success attending the trials already made, give the greatest encouragement to prosecute this useful discovery. And as the seeds of the Sun-flower are at this time nearly ripe, and in a proper state for extracting the oil from them, it may be of service to lay these facts before the public. Such as may have an inclination to make trials on this subject, and are not at present furnished with a sufficient quantity of seed for pressing out an oil, may now supply themselves with enough to plant for making experiments the ensuing year.

For the information of those who have both opportunity and inclination to extend the inquiry, and render this a valuable branch of business, but are not acquainted with the general principles upon which oil is obtained, by expression from vegetable substances, it may be proper to observe, that the kernels of fruits, such as walnuts, hickory nuts, filberts, almonds, peaches, &c. and the seeds of many plants, as mustard, rape, poppy, flax, Sun-flower, sumach, mullen, &c. contain a large portion of mild oil. In order to obtain the oil, the kernels or seeds are commonly rubbed to powder, or ground in mills. They are then put into a strong bag, made of canvass or woollen cloth, and committed to a press between iron plates, by which the oil is squeezed out, and is received or conducted into a proper vessel to collect it. The plates of the press are often heated, either in boiling water or before the fire. Many heat the mash itself in a large iron pot, stirring it about with a stick or piece of wood, to prevent its burning, which, when it happens, greatly injures the oil, and gives it a burnt smell and taste, or disposes it to become rancid in a short time. When the oil is drawn without the assistance of heat, it is known by the name of cold drawn oil, and is more valuable than when heat is used, but it is not obtained in the same quantity. It is milder, and may be kept longer without spoiling.

In a cold season of the year, a certain degree of heat is absolutely necessary. But if the oil is designed for ailiment or medicine, the plates of the press should be heated in boiling water only. When the oil is intended for other uses, the plates may be made hotter, as heat expedites the separation of the oil, and gives it a greater produce, but then care should be taken not to injure the subject by burning. Sometimes the subject, when ground appears almost like a dry powder. It is then said to be meagre, and requires to be exposed to the vapours of boiling water, which is done either by tying it up in a bag, or putting it into a sieve, and placing it over the steam. By this impregnation, it will yield its oil more readily, and in greater quantity. The oil may be easily freed from any water, that may happen to be pressed out with it, as a spontaneous separation between them will take place on standing for some time.

For the encouragement of those who may choose to improve this subject, it may be proper to observe, that all the oils, from whatever vegetable substances they are drawn, when obtained by expression with due caution, agree in their general qualities, and are constantly mild even though they are obtained from very acrid substances. Thus the expressed oil of mustard seed is, when fresh, as mild as that of olives, and the bitter almond, or peach kernel, affords an oil, by expression, as mild as that of sweet almonds. It is upon this principle, that the Sun-flower oil may prove equally valuable with the best Florence oil, for diet or medicine. For every expressed oil, when pure and fresh, is void of acrimony, and free from any particular taste or smell.

Besides the mild oil just mentioned, some substances contain another kind of oil, called their essential oil, a part of which may be drawn off, with the mild expressed oil, so called, and impart its smell or taste to that oil. It is called essential oil, from its yielding the particular odour of the vegetable, or part of the plant, from which it was obtained; it is pungent to the taste, and soluble in spirits of wine, which the other is not. They may, therefore, be easily distinguished from each other. The oil of sweet almonds, and the oil of olives, being pure unctuous expressed oils, not soluble in spirits of wine, but mild to the taste, and void of odour, very soft, emollient, and lenitive, are chiefly used in medicine and diet. And the reason why the oil of olives, in particular, is preferred, is because it is less expensive, and will keep a much longer time without becoming rancid.

Perhaps, on trial, the Sun-flower seeds may be found to contain an oil that will answer the like good purposes with the sallad and medicinal oil now in use. If so, it will have this advantage over that of almonds or olives. that it is a native of the country, may be always had fresh and at a small expense. Whereas the others are the produce of distant countries, bear a high price, and are often adulterated on that account, or, being kept a long time, they lose their mild quality, and become rancid and acrimonious.

The practicableness of getting oil among ourselves at a moderate expense, and the importance of using it fresh, together with the probable uses of Sun-flower oil for varnishes, for the basis of ointments. and for mixing of paints, as well as other purposes to be answered by oils in general, claim our attention to this subject, and encourage further trials of the like kind.

ORCHARDS.

It has become proverbial, that "where an old orchard has stood, a youug one will not thrive." This has been so frequently reiterated, that many of our good agriculturists have subscribed to the opinion, without taking the trouble to examine into it, and have accordingly neglected a very important source of profit and convenience.

It is a fact, much to be regretted, that the cultivation of fruit trees, in this country was much more attended to half a century since, than at the present time—consequently, with our increased population, fruit has become scarce, and a belief almost positively exists, that fruit trees will not thrive on old land. This question needs serious consideration, that our yeomanry may no longer take hypothesis for fact, when but one experiment would dispel the illusion.

We, however admit the fact, that trees planted on new land thrive uncommonly well, and many of them grow to a great size, while those planted on land that has been much cultivated and worn, have been very tardy in their growth, and as yet are but dwarfs in comparison with the former Now we will endeavour to explain the reason of this admission, which we trust will at the same time throw some light on the art of cultivating fruit trees.

1st.—Trees, planted fifty or one hundred years since, were generally set on new land, highly enriched by the decaying vegetable productions, which had been accumulating, perhaps, from time immemorial. The richness of the soil would, without doubt, enable the tree to grow rapidly, and very abundantly explains the reasons of their monstrous growth.

2d.—An orchard set on the ruins of an old one, has not this vegetable manure to lend the aid that its predecessor had; consequently, it is slow in its growth, small and unproductive when grown, becomes mossy, dwindles and dies or is neglected as unworthy of the husbandman's attention; and the catterpillar destroys what the axe has spared. Our climate and soil are every way calculated for the production of fruit in its perfection and abundance,when only assisted by the fostering hand of art—and it is unreasonable to anticipate a harvest without previous cultivation. In the early days of our country the earth needed only the seed to be sown to produce a rich harvest, for its bosom was enriched and softened by natural manure. The case is now different—it has been skinned by grandfather, farther and son, twice or thrice repeated until its face is sadly wasted. Who is there among us, when allowed to think for himself, that would suppose a tree would grow when unassisted by art,on land thus impoverished? The farmer, who thinks of raising a good crop of corn knows well the necessity of softenning manuring, and frequently stirring the earth—on this depends his success. Suppose he should say, with regard to his corn, as he does in fact of his trees, my great grandfather planted without hoeing or manuring, and was sure of the increase, and I will do likewise—would he not be styled a madman or a fool? Let the husbandman bestow the same care on an orchard that he does on a field of corn, and he will be blest with the same abundent harvest.

To him who doubts the possibility of making a good orchard on old land, these few simple rules are enjoined, and we doubt not, upon experiment, his happy conversion to a truth that will increase his wealth.

I. Be sure that the roots of the tree be not below the soil. If the soil be shallow, bring it from another place, and throw it round the tree, in a sufficient circumference for the roots to grow in.

II. Prune the superfluous limbs and branches, and keep the bark smooth and clear from moss.

III. Suffer no grass to grow within ten feet of the tree, and twice in the year, spring and fall, loosen the earth in this circumference, and mix into it a full wheelbarrow load of rich manure.

The author is happy to state, that a few years' experiment upon this plan, on the ground of an old orchard, has convinced him that the principle opposed in this paper is without foundation.

VERITAS.

OUR OWN Agricultural writers entitled to be ranked with distinguished foreigners.

[From the Southern Patriot, Sep. 27th 1820.]

We complain that our Literary Productions are not duly appreciated in England, when we ourselves are mostly deserving of censure.

When an American publishes a volume, so little interest is excited, that if the expenses are defrayed and the author has incurred no expense, he has cause to congratulate himself upon the success of his work. With *few* exceptions, I fear this assertion will be assented to; and the little patronage bestowed upon several well written productions of our own State, both in Poetry and Prose, too fully justifies the charge of apathy, relative to the productions of American talents. But no sooner does an European favour the world with a work, though written without much judgment, or poetic genius than it is sought after with avidity, and often hurried through the American Press with all imaginable despatch, while our Magazines and Literary Journals, (many conducted by the first scientific men of our country) fail from the want of sufficient encouragement.

This apathy not only regards works of general Science, but is equally applicable to the few *Agricultural* productions, published by our countrymen. I was forcibly struck with these feelings upon the perusal of a very valuable Address from Colonel PICKERING to the Essex Agicultural Society in Massachusetts, in February last and published in the Rural Magazine at Philadelphia.

The utility of deep ploughing—the advantages of burying manure as quickly as possible—a due attention to draining and the important doctrine of using *fresh* instead of *rotten* manure, are much and deservingly expatiated upon in this discourse. This method of applying manure the late ARTHER YOUNG, of England. considers to be one of the greatest Agricultural discoveries of the present age. If any Practical American Farmer will peruse with attention, the Agricultural Essays of Colonel JOHN TAYLOR of Virginia, under the signature of *Arator*, which treat upon manuring, the enclosing system, ploughing and draining, and compare *his* sentiments upon those important branches of Agriculture with the *practice* of BAKEWELL, ARBUTHNOT and DUCKET, he will much regret that the able President of this society had not met with that book, as he might, with equal justness and pride, have associated TAYLOR with those celebrated British Farmers, whose genius, enterprize aud application, Mr YOUNG says "carried their Agriculture to a perfection unknown before."

Colonel PICKERING's discourse is however well worthy the attention of the Agriculturist, and I notice it to show how prone we *all* are to look *abroad* for the experience and information we can find at *home*. A great diversity of opinion exists among Planters, relative to the most approved method of producing the greatest crops from every article we cultivate. This must continue to be the case, until some cause shall excite a competition between many Farmers; and I anticipate much information upon the culture of *Indian Corn* from the emulation which has taken place among certain members of the *Claremont* Agricultural Society, relative to that important staple of a part of our State.

Permit me with a complete conviction of the great benefit arising from such a plan, to urge the Corn Planter at *this* season, to restore to his fields as soon as possible after *Harvest*, the stalks, shucks and grass, under a heavy listing of the earth. The *cob* appears to possess much nourishment for plants, and they should be scattered over the fields previous to the *listing*, or *strewed* over the *Cow-Pen* where they preserve by absorption much of the manure, which would be otherwise wasted by *evaporation*. This practice, in conjunction with the enclosing system has produced from Old Fields, to my own knowledge, *half* as much more as when they were last under cultivation. The District of *Pendleton*, I believe to be the only one in our State, which has set the laudable example of offering Premiums for the promotion of its Agriculture. When I ventured to invite a part of my Agricultural Brethren to unite for the formation of a *Farmer's* Society in the *Low* Coun-

try, I flattered myself my feeble attempt would induce some one, better qualified, to point out the numerous advantages resulting from such Associations in many Districts. "*Plough Share*," a writer in the Patriot "has fully met my wishes."

A COTTON PLANTER

FOR THE AMERICAN FARMER.

MILLET.

Mr. Editor:

Had I anticipated the publication of the several letters written by myself on Millet, which have appeared in the American Farmer, I should certainly have given its *specifick*, rather than *generick*, name. I was indeed ignorant of the existence of so many species as, it appears, there are in the United States.

Dr. Mease, will I confidently hope, in a short time furnish us, with a botanical description of the several species, and varieties of this valuable plant. In the mean time, for the satisfaction of Mr. Smith and others, who are solicitous of the information, I will state that black millet, (*Holcus bicolor,*) is the kind I cultivate.

Your's truly,
BENJAMIN COLMAN.

Spotsylvania, (Va.) 27th *August*, 1821.

FOR THE AMERICAN FARMER.

HOW TO MAKE CAPONS.

J. S. Skinner, Esq.

Sir,—We read in history that a favorite dish of the antient Romans was, the "*Gallus spads*," or capon, and in such high repute was it, that it generally graced the board of that most excellent judge, of good eating, Lucullus, and might probably have retained its celebrity, during the most luxurious days of Rome, but for the higher claim of that delicious tit-bit, the "peacock's tongue."

Shakspeare, it seems was not insensible to its worth, when he represents the justice,

"In fair round body, with good *Capon* lin'd.

And we are told that in Great Britain, at the present day, the fat capon is preferred by a "portly alderman," at a corporation dinner, to every dish, *Turtle-soup*, only excepted.

What is the reason, that in our country where good living is so highly prized, the capon is seldom, if ever seen on the tables even of the luxurious? Should a person visit the most respectable and wealthy houses from Maine to Mississippi, he would not probably once in seven have this question put to him at dinner, "Sir, shall I help you to a fine piece of capon?"

I would by no means attribute this neglect of one of the finest dishes in the world to obtuseness of the palate—but rather to want of skill in performing the necessary operation on the cock. To obviate this, I will subjoin directions, by the observance of which, a man of common adroitness *can make two dozen capons in an hour.*

Lay the chicken before you on his left side with his head towards your left hand, let an assistant hold him by the head and legs extended. With a small sharp knife make a transverse incision of one and an half inches or more in length, between the wing and leg on the right side just below the ribs. Insert the fore finger, and near the middle of the body at the distance of about three fourths of an inch from the incision, near the back, will be found the *testicles*, which may be easily removed by the thumb and finger. Sew up the orifice and daub a little tar on the place, externally to prevent the flies from infesting the wound. Care should be taken in cutting through the several integuments, lest the *viscera* be wounded. The cock should be about half grown.

Not one in a hundred will die in consequence of the operation.

Respectfully Yours &c. C.

Virginia, 27th August 1821.

Premiums for the preparation of flax.

The Board of trustees of the Massachusetts Society for Promoting Agriculture, viewing the culture of flax as of primary importance to the agricultural interests of the commonwealth, have adopted measures to encourage the introduction of Machines for dressing that article *without preparation*, said to be in operation in Europe; but concluding that much time might probably elapse before such machines could be introduced and their practical utility demonstrated, and with impressions that the injurious preparation by *dew rotting* or the inconvenient process of *water rotting* have retarded the cultivation of this valuable plant, the extension of which would be immediately promoted by the discovery of a mode less liable to objections, appointed a committee of the board, to take the subject into consideration, and to offer such rewards as they might deem expedient to effectuate the object.

When said Committee contemplate the powerful dissolvent and expansive properties of *steam*, they are led to believe that it will speedily seperate the fibres of the flax from the stem without impairing their strength, and at the same time cleanse the material so perfectly as to supercede the use of *Alkalies* or *Acids*: and they are encouraged to hope that its convenient application may be made to comport with calculations of profit. Should they be disappointed in these expectations, they have supposed that *Boiling* may be resorted to in preference to the usual method of preparation, especially when it is considered that *this* process, as well as steaming, may be performed at such seasons as will not interfere with other important labours. The Committee offer,

To the person who shall prove by actual experiment, the best and most economical method of preparing flax by *steam*, which shall appear to the satisfaction of the Trustees preferable to the common modes—the Society's Gold Medal, or - - - - - - - $50 00

To the person who shall exhibit the next best—a Medal or - - - - $30 00

To the person who shall prove by actual experiment, the best and most economical method of preparing flax by *boiling*, which shall appear to the satisfaction of the Trustees preferable to the usual modes—the Society's Gold Medal, or - - - - - - - $50 00

To the person who shall exhibit the next best—a Medal or - - - - $30 00

To the person who shall prove by actual experiment, *any other mode* of preparing flax, which shall be deemed by the Trustees preferable to the usual method—the Society's Gold Medal or $50 00

A strict compliance with the following requisitions will be necessary to entitle the competitors to premiums, viz:—

The experiment must be made upon a quantity that shall produce not less than seventy-five pounds of well dressed flax. A particular description of the apparatus; an account of the cost of the same; the time employed, and manner of conducting the whole process till the material is ready to be dressed; the quantity of fuel used, and all the items of labour and expense. And also the expense of *dressing*, and the quantity dressed per day, by hand or machinery. The whole to be attested by the claimant, and one or more of his assistants, before a magistrate. These documents, with a fair sample of the flax of not less than five pounds; are to be deposited with Benjamin Guild, Esq. one of the Secretaries of the Board, at his office, State-street, Boston, on or before the second Wednesday of January, 1822.

S. W. POMEROY, Chairman.

August 21. 1821.

BALTIMORE, FRIDAY, SEPT. 7, 1821.

PRICES CURRENT.

Flour from the wagons, $5 12½—Whiskey from do. 27 cts. exclusive of bbl.—Wheat, white. $1 02 to 1 05—Red, do. 97 cts a $1 00—Oats, 20 a 23—Rye, 40—Hay, $12 a $14—Live Cattle, $5 a 6 50—Codfish, per quintal, wholesale, $3, retail 3 50 a $4—N. England Beans per bushel $1 12½—do. Peas, 75 cts—Plaster in stone $6 per ton—do, ground, $1 35 per barrel, 33 cts. per bushel, $8 per ton—New-Orleans sugar, $9 to $12 50—Muscovado, do. 9 a $12—American White Lead, $12 50—Ground do. 13 a 14—Linseed Oil, 75 cents—Feathers, 40 a 45 cents—Shad, new, $6—Herrings, $2 a $ 25, declining—Fine Salt, 55 cents per bushel—Ground Alum do. 55 a 60—St Ubes, 60—Cadiz, 50 a 55 Turk's Island, 75—Beef, 8 to 10 cts—Hams, 10 a 12 cents—Middlings, 15 cents—Butter, 25 cents—Peas, 50 cents pr bushel—Eggs, 12½ cts—Cheese, 8 a 10 cts per pound—Tar $2—Turpentine, soft, 2 } Cargo prices—2 ms.—Hard, 1 50 to 1 62½— } credit.
Pitch 2 a 2 25—Rosin, common, $1 37½ a 1 50—Varnish, 25 cents—Spirits Turpentine, 33 cents per gal.

Maryland Tobacco.—A crop from South River of 7 hhds sold the present week at $9 and $6—Good Tobaccoes in demand, at an advance from $1 50 to $2 per cwt.

No sales of Virginia.

UNIVERSITY OF MARYLAND.

The Medical Lectures will commence in the University of Maryland, on the last Monday of October, and be delivered by the following gentlemen:

Surgery, John B. Davidge, M. D.; Practice of Physic, Nathaniel Potter, M. D.; Chemistry, Elisha De Butts, M. D.; Anatomy, Granville Sharp Pattison, Esq.; Materia Medica, Samuel Baker, M D.; Obstetrics, Richard N. Hall, M. D.; Institutes of Medicine, Maxwell McDowell, M. D.

By order: GRANVILLE S. PATTISON,
Dean of the Medical Faculty.

Baltimore, August 20.